

Abstract

The present invention provides a chemical-mechanical polishing slurry for use in removing a barrier layer during the fabrication of a damascene structure. The slurry according to the invention includes an agent that suppresses the rate at which an underlying silicon-containing dielectric layer is removed. In the presently most preferred embodiment of the invention, the agent that suppresses the rate at which an underlying silicon-containing dielectric layer is removed is L-lysine and/or L-arginine. The present invention also provides a method of suppressing the removal rate of an underlying silicon-containing dielectric layer during the chemical-mechanical polishing of a barrier layer in a damascene structure. The method according to the invention includes polishing the barrier layer with a slurry comprising an agent that suppresses the rate at which said underlying silicon-containing dielectric layer is removed.